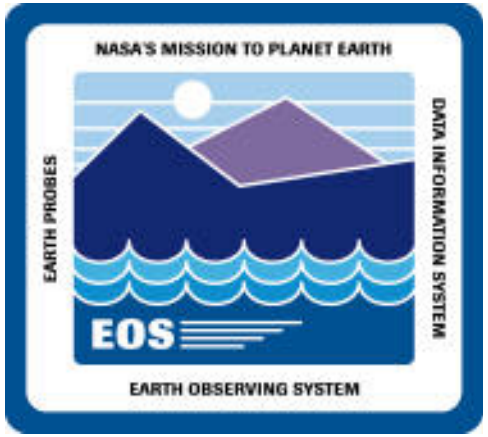
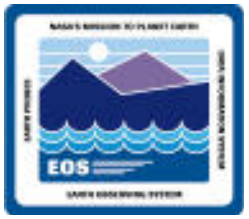


ECS Test Overview

Gil Scott

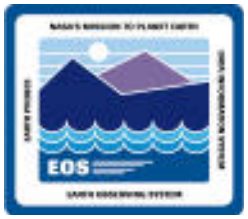
3 November 1995

ECS Test Overview Agenda



- **ECS Test Program**
- **Verification Summary**
- **Roles and Responsibilities**
- **User Involvement**
- **Test Roadmap**

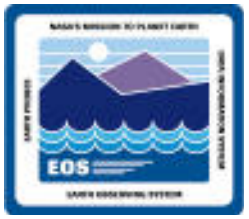
ECS Test Program



Field a Working ECS That:

- **Satisfies Baselined Requirements**
  - **Verify IRDs and Level 3 Requirements**
  - **Traceability Assures that all Requirements are Verified - RTM Tool**
- **Is Ready for ESDIS Integration**
  - **External Interfaces are Tested/Verified During Formal Test with Simulators or Actual Interfaces**
  - **System Installed and Accepted at Sites - Site-to-Site Interfaces Verified**
- **Fulfills User Needs**
  - **Verification Above Unit Level is Driven by User Scenarios**
  - **Segment I&T Focuses on Smaller Portions of a Scenario - Threads**
  - **System I&T Focuses on Longer Builds**
  - **Acceptance Testing Uses Actual User/OPS Scenarios**
- **Uses a Representative Sample of Real Data to Support Testing**

Verification Program Summary



The ECS Verification Program is a Sequential Group of Activities that:

- **Are Performed by Developers, Release I&T and the IATO**
- **Examine Larger and Larger Parts of the System**
- **Are Requirements Driven, But Approached from Different Points-of-View**
- **Are Appropriate to the Criticality of the Function Under Test**
- **Are Witnessed by Different Groups**
- **Are Described in a Progression of Documents**

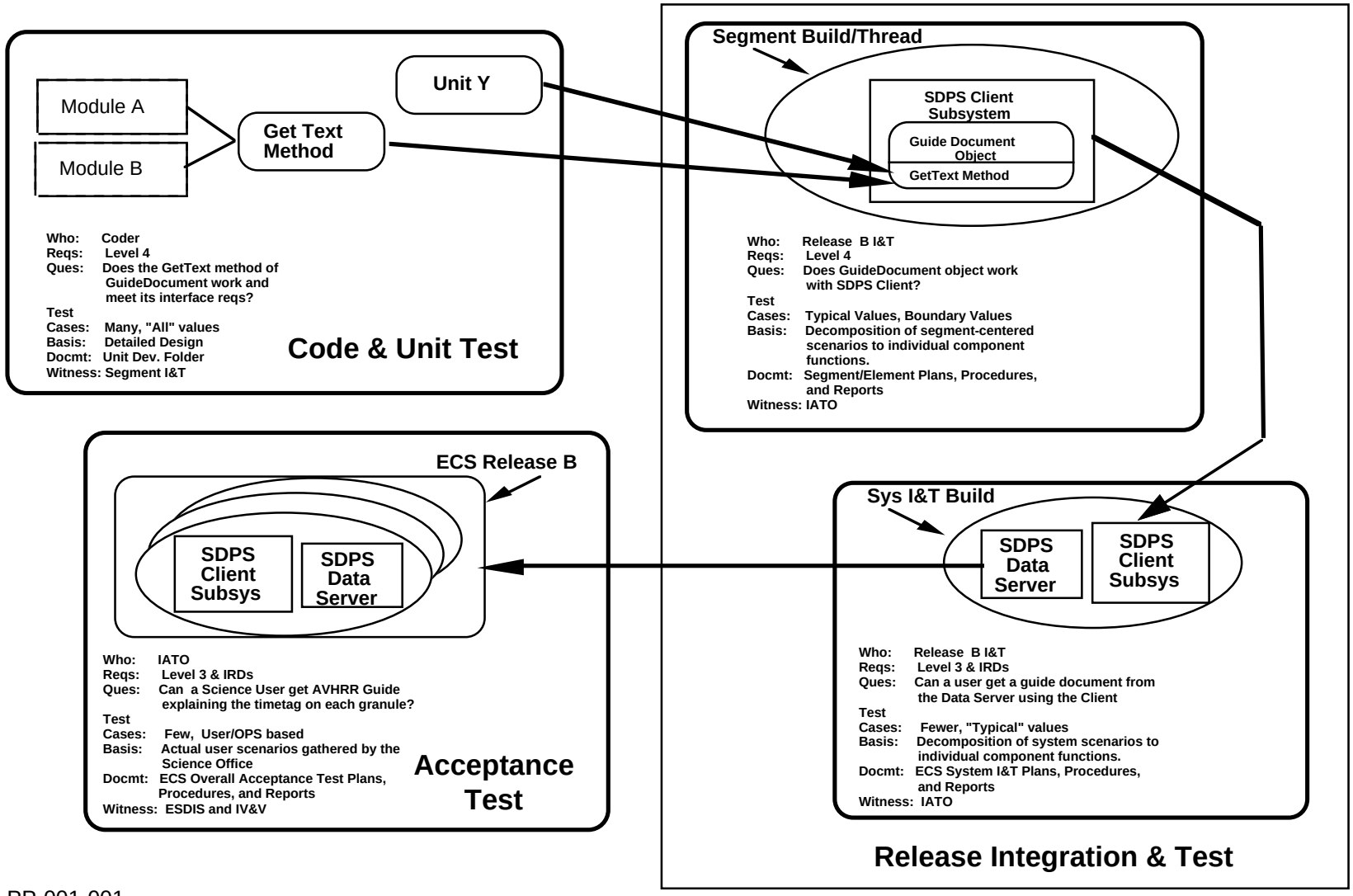
ECS Roles and Responsibilities

ECS Test Activities

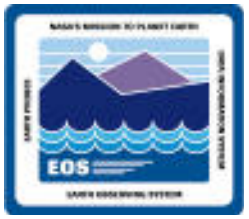
Design Development Code and Unit Test (at EDF)	Release Integration & Test (at EDF)	IATO Acceptance Testing (at Sites)
• Develop CSCs/CSUs • Integrate COTS, GFE and Heritage • Inspections and Demos • Conduct Tests Utilizing Test Tools, Simulators, and Stubs	• Use Build/Thread Methodology for I&T of Formal/Informal Track Design CSCs/CSUs • Level 4 Requirements Verification at EDF • Level 3 Requirements Verification at EDF • Conduct Test Utilizing Simulators and Test Data (Including Science TDSs) • Develop ECS I&T Detailed Test Plans/Procedures	• Use Ops Scenario Test Methodology • Level 3 Requirements Verification at Operational Sites • Conduct I/F Tests with Operational/Development Systems if Available; Otherwise Simulations and Test Data (including Science TDSs) • Develop AT Detailed ECS Test Plans/Procedures
ECS Release Developers Team • I&T • QA, CM, DM	**ECS I&T Team** • Developers • IATO • QA, CM, DM • IV&V	**ECS Acceptance Test Team** •DAACs •Developers •QA, CM, DM • O&M • ECS I&T • IV&V

CDR → ECS Internal Product Turnovers → TRR → ETR → CSR → RRR and ECS Release Delivery

Test Progression Example



User Involvement



It is Recognized that:

- **The Ultimate System Must Support Users:**
  - **External Users**
  - **DAAC Personnel**
  - **Operations Personnel**
- **Requirements in Isolation Often Don't Capture those Needs**
- **Without Understanding Those Needs, Verification Is Incomplete**
- **Mitigation Through Participation**
  - **User Review of Plans & Procedures**
  - **Incorporate ECS Tirekickers and M&O Personnel as Operators in Tests**
  - **Intend to Schedule Beat-and-Bash Sessions During IATO Preparation at EDF**

Release B Status - Roadmap